NCWA
Northern California Water Association

Local Fishery Projects in the Sacramento Valley

The Sacramento Valley's initiative and effort to help protect salmon and other aquatic species is unprecedented and is now recognized as one of the most exciting and progressive voluntary salmon restoration efforts in the United States. Today, over a dozen NCWA members, representing over 500,000 acres of irrigable land, are in various stages of developing screens to prevent fish entrainment at their diversions. As a result, nearly 75 percent of all agricultural water use from the Sacramento River will soon flow through new, state-of-the-art fish screens. On Butte Creek, local water users have addressed – or will address – nearly every fishery impediment identified by regulatory agencies.

Since 1994, many NCWA members have initiated far-reaching efforts to screen diversions, refurbish fish ladders, construct siphons, remove dams and implement other habitat improvement projects to enhance the environment. These projects include:

1. Browns Valley Irrigation District

Browns Valley Irrigation District (BVID) has started construction on its Yuba River Diversion Fish Screen. The completion of this project, designed to protect salmon in the Yuba River, was delayed due to inclement weather. Browns Valley has secured complete funding for its project from various sources, including Yuba County Water Agency, Yuba River PG&E Mitigation Account, Category III, CVPIA Restoration Fund, Tracy Pumps Mitigation Fund and BVID's own funds. BVID will independently build and install the fish screen project.

2. Glenn-Colusa Irrigation District

Glenn-Colusa Irrigation District (GCID) broke ground on its Hamilton City Pumping Plant screening project in April of 1998. GCID diverts a maximum of 3,000 cubic feet per second (cfs) from the Sacramento River, with the peak demand occurring in a dry spring year at the same time as the peak out-migration of juvenile salmon. Key components of the project include a 600-foot extension to the existing fish screen and a stabilizing gradient facility in the mainstem of the Sacramento River. Total construction cost of the screen and gradient facility is estimated at $50 million. This project will minimize losses of all fish in the vicinity of the pumping plant diversion, including endangered winter-run chinook salmon, and will maximize GCID's capability to divert the full quantity of water it is entitled to utilize to meet its water supply delivery obligations.

3. M & T Chico Ranch

M &T Chico Ranch environmental restoration activities included relocating and screening the M & T Pumping Station from the mouth of Big Chico Creek to the Sacramento River, recently completed for a total cost of $5 million. This project will ensure a guaranteed water supply to over 8,000 acres of permanent wetlands and over 1,500 acres of seasonal wetlands. Additionally, it also protects habitat for migrating spring-run chinook salmon. One other important benefit of this project is M & T Ranch's agreement to provide fish flows in the amount of 40 cubic feet per second to Butte Creek, one of the most important and last remaining spawning areas for the Spring-run.

4. Maxwell Irrigation District

The Maxwell Irrigation District now operates a state-of-the-art positive barrier fish screen , one of the first of its kind installed on the Sacramento River. Completed in 1994, the new pumping plant and screen facility divert approximately 80 cfs at a completed cost of nearly $1.6 million. The screens are intended to protect all fish, but primarily steelhead and endangered winter-run chinook salmon. The State of California recently retroactively reimbursed Maxwell ID for much of their expenditures.

5. Natomas Central MWC

Preliminary engineering studies have commenced to investigate the feasibility of screening the 700 cfs Natomas Central Mutual Water Company diversion on the Sacramento River. Natomas Central has already undertaken feasibility studies and will receive CVPIA Restoration Fund monies to help cover the estimated $10-$15 million capital costs associated with this project. The screened diversion is an integral component for future integrated water resources management in the American River basin.

6. Pelger Mutual Water Company

In 1994, the Pelger Mutual Water Company completed construction of its new pumping station and positive barrier fish screen in the Sacramento River near Knight's Landing. This facility includes pumps with a discharge capacity of 60 cfs and was completed for a total cost of $350,000. While Pelger MWC financed the original project, the State of California recently reimbursed the water company for much of the original expense. Pelger MWC also recently received additional CALFED ecosystem funding to undertake an innovative evaluation of entrainment potential of unscreened small diversions.

7. Princeton-Codora-Glenn Irrigation District / Provident Irrigation District

In August 1997, the Princeton-Codora-Glenn and Provident irrigation districts began construction of an $11 million fish screen and pump consolidation project on the Sacramento River. The new 605 cfs diversion will protect endangered winter-run chinook and spring-run chinook salmon. The new facility, which eliminates three unscreened diversions, was originally scheduled to be operational by spring 1998. Delays in construction, primarily resulting from the high water conditions in the Sacramento River last year, have pushed back project completion to later this year.

8. Reclamation District 108

Reclamation District 108 began construction in 1997 of a new $10 million screen. The project, located at the district's Wilkins Slough diversion, will protect migrating endangered winter-run chinook salmon, as well as the spring-run chinook. The design for the new screen facility was chosen after several years were spent examining the performance of alternate screen technologies. The district will hold dedication ceremonies for the completed project this spring.

9. Reclamation District 1004

Reclamation District 1004 began construction of its $7 million screen last summer. Poor weather and adverse river conditions delayed the start of construction in 1997. The proposed project includes relocation of the Princeton Pumping Plant and necessary conveyance facilities to a more stable location along the Sacramento River, in addition to construction of a positive barrier fish screen. This project will eliminate significant adverse impacts to fish inhabiting the Sacramento River, including juvenile winter-run chinook salmon and steelhead.

10. Richter Brothers

The Richter Brothers diversion on the Sacramento River near Knights Landing is located along a reach of the river that hosts several species of salmon, steelhead trout and the recently listed Sacramento splittail minnow. Richter Brothers have received CALFED funding for feasibility studies and preliminary design for an improved diversion that will provide an important protective role for fish in this critical stretch of the river.

11. Tehama-Colusa Canal Authority

The water users that make up the Tehama-Colusa Canal Authority (Authority) and the U.S. Bureau of Reclamation have addressed fish passage problems at Red Bluff Diversion Dam since 1985 by modifying dam operations. The installation of rotary drum screens in 1990 and the $22 million research pumping

plant in 1995 furthered these efforts. The CALFED Bay-Delta Program is also exploring plans for improved fish ladders at Red Bluff or a new screened facility on the Sacramento River. Last year, the Authority obtained $340,000 in state and federal funding through the Ecosystem Roundtable to investigate the feasibility of installing state-of-the-art screening and pumping at Red Bluff to replace the diversion dam gravity intake system.

12. Western Canal Water District

The Central Valley Project Improvement Act and the Anadromous Fish Screen Program have identified several projects within the Butte Creek watershed that would improve fishery resource conditions, specifically spring-run chinook salmon and steelhead trout. A number of these projects at Durham-Mutual, Rancho Esquon (Adams Diversion Dam), and Gorrill Land Company (Gorrill Diversion Dam) are scheduled to be constructed during 1998 and 1999. The Western Canal Water District $11 million siphon project completed last year features construction of a siphon under Butte Creek to transport irrigation water across the creek without impacting migrating salmon, including the spring-run chinook – a fish recently designated as a threatened species by the California Fish and Game Commission. As a direct result of this work, several existing barriers to migrating fish will be removed.

13. Lower Butte Creek Project – Sutter Basin Butte Sink Water Users Association, Reclamation District 1004, RD 70, Butte Slough Irrigation Company, RD 1500, Butte Sink Waterfowl Association, Western Canal, RD 1660.

Lower Butte Creek, Butte Sink and Sutter Bypass: On the main migration corridor for Butte Creek spring-run salmon, The Nature Conservancy, California Waterfowl Association and NCWA are working with local water users and fishery agencies to determine the feasibility of reducing or eliminating fish passage and entrainment problems. The group has already completed the first phase of this project, and is moving into the second phase, which will include preliminary engineering and design that may lead to construction by the year 2000. CALFED will fund the second phase efforts up to $750,000.

14. Yuba County Water Agency

The Yuba County Water Agency is working with the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers to evaluate options to improve fish passage upstream and downstream of Daguerre Point Dam on the Yuba River. While the existing fish ladders appear to be working properly, a study will assess whether the facilities can be further improved. Yuba County Water Agency has also received CALFED and CVP Restoration funds to study the life history and stock composition of steelhead trout on the Yuba River.